

# How should Chainline Bike Repairs pay for its van?

Teacher guidance and answers | Original TBS classroom practice

Use this lesson when teaching sources of finance. Students work out the interest and other costs of five ways a small business could raise £12,000 for a van, sort sources of finance into short-term and long-term in pairs, weigh the advantages and disadvantages for the business and recommend one source. The tasks are planned to take about 55 minutes and have not been trialled in a classroom. The minutes include brief answer checking but not handing out materials or a full plenary; allow about 65 minutes in the timetable. Suited to Year 10 or Year 11 classes studying AQA GCSE Business 8132.

## Curriculum fit

AQA GCSE Business (8132) specification, Version 1.0, 19 August 2016, for exams in 2019 onwards, section 3.6.1 Sources of finance (printed page 25): methods businesses use to raise finance and the appropriateness of sources of finance. Students should be able to understand the main internal and external sources of finance available (the specification lists family and friends, retained profit, a new share issue, obtaining a loan or mortgage, selling unwanted assets, overdrafts, trade credit, hire purchase and government grants), analyse the advantages and disadvantages of each method for a given situation and evaluate the suitability of sources of finance for new and established businesses. The interest calculations link to section 3.2.3 (printed page 14: how fluctuating interest rates can affect businesses that rely on overdrafts and loans; economic theory of why interest rates change is not required, and none is used) and to percentages and costs in Appendix 6, quantitative skills (printed page 35). The private limited company and its shares link to section 3.1.2 Business ownership (printed page 11).

Every source of finance in the lesson is named in the specification list. The words short-term and long-term do not appear in the specification; Task 3 uses them as a simple aid for judging appropriateness. Checked against the archived Version 1.0 specification; please confirm the current version for your cohort with your exams officer. This is a TBS lesson, not an AQA resource; it is not endorsed by AQA and uses no AQA exam questions or mark schemes.

Simplifications, also printed for students: the loan's interest is 8% of the full £12,000 in each of the 4 years (a flat rate; real lenders usually charge interest on the amount still owed, which would cost less), and the overdraft is used for the full £12,000 for a whole year. All business details and numbers are fictional. The answers are indicative teaching guidance only. There is no official mark tariff, level descriptor or AO allocation for these tasks and no grade claim is made.

## Lesson plan (about 55 minutes of tasks, estimated)

| Stage                                             | Minutes | What happens                                                                |
|---------------------------------------------------|---------|-----------------------------------------------------------------------------|
| Starter: internal or external?                    | 5       | Sort six sources of finance.                                                |
| Task 1: what does borrowing cost?                 | 10      | Loan and overdraft interest; a rise in the overdraft rate.                  |
| Task 2: hire purchase, shares or retained profit? | 9       | Hire purchase cost, Sam's share of profit, the gap left by retained profit. |
| Task 3: short-term or long-term?                  | 8       | Pairs sort six sources and match finance to its use.                        |
| Task 4: for and against                           | 8       | One advantage and one disadvantage of four options.                         |
| Task 5: recommend                                 | 10      | Written recommendation.                                                     |
| Exit ticket                                       | 5       | Two quick questions.                                                        |
| Total                                             | 55      |                                                                             |

45-minute version: starter 4, Task 1 8, Task 2 7, Task 3 7, Task 4 6, Task 5 8, exit ticket 5. In Task 4 pairs can split the four options and then swap. Ask for about 50 words in Task 5. This timing has not been trialled. The 45 minutes are task time only, so in a real 45-minute period, with handing out and feedback, move the exit ticket to homework.

### Answers: starter and Task 1

Indicative guidance for teachers. This is not an exam board mark scheme and carries no marks or grades.

Starter: (i) I; (ii) E; (iii) I; (iv) E; (v) E; (vi) E.

| Task 1a                     | Working                  | Answer  |
|-----------------------------|--------------------------|---------|
| Interest each year          | $8 / 100 \times £12,000$ | £960    |
| Total interest over 4 years | $£960 \times 4$          | £3,840  |
| Total repaid                | $£12,000 + £3,840$       | £15,840 |
| Monthly payment             | $£15,840 / 48$           | £330    |

Task 1b:  $18 / 100 \times £12,000 = £2,160$  a year;  $£2,160 / 12 = £180$  a month on average. Task 1c:  $21 / 100 \times £12,000 = £2,520$  a year, which is  $£2,520 - £2,160 = £360$  more. A quicker method:  $3 / 100 \times £12,000 = £360$ . Task 1d: The loan's 8% rate is fixed for the 4 years.

Teacher note: overdraft rates usually move when interest rates change, so a business that relies on an overdraft faces higher costs when rates rise. Even at 18%, the overdraft costs £2,160 a year against the loan's £960, and the £12,000 is still owed at the end of the year.

## Answers: Task 2 and Task 3

| Task 2a                          | Working                   | Answer  |
|----------------------------------|---------------------------|---------|
| Deposit                          | $10 / 100 \times £12,000$ | £1,200  |
| Total of the 36 monthly payments | $36 \times £375$          | £13,500 |
| Total paid                       | $£1,200 + £13,500$        | £14,700 |
| Extra cost above £12,000         | $£14,700 - £12,000$       | £2,700  |

Teacher note: hire purchase costs less extra in total than the loan (£2,700 against £3,840) because it lasts 3 years, not 4, but the monthly payment is higher (£375 against £330) and £1,200 is needed now. If the deposit came from retained profit,  $£5,000 - £1,200 = £3,800$  would be left.

Task 2b:  $25 / 100 \times £16,000 = £4,000$  to Sam; Leah receives  $£16,000 - £4,000 = £12,000$ . Task 2c:  $4 \times £4,000 = £16,000$ , which is £12,160 more than the loan's £3,840 interest. Task 2d:  $£12,000 - £5,000 = £7,000$  still needed. Using it all leaves no cash for emergencies or a quiet month, and it cannot be spent on anything else.

Teacher note: unlike the loan, Sam's share of profit has no end date, but if profit falls Sam receives less, and there are no fixed payments. In Task 2d the lost chance to use the £5,000 for something else is its opportunity cost.

Task 3a: (i) S; (ii) S; (iii) L; (iv) L; (v) L; (vi) L. Teacher note: some textbooks call finance over 1 to 5 years medium-term; this lesson uses the two-way rule printed on the student page.

Task 3b: Long-term: the van earns money for about 6 years, so repayments can be spread over that time. Teacher note: short-term finance would mean repaying £12,000 within a year, but the van brings in only about  $£500 \times 12 = £6,000$  a year.

Task 3c: B, the overdraft: the parts are sold within 2 months, so short-term finance is repaid quickly. Also accept E, retained profit (no interest), if the student says enough cash is left for emergencies. Teacher note: overdraft interest on £1,500 for 2 months at 18% a year is about  $1,500 \times 18 / 100 \times 2 / 12 = £45$ .

## Answers: Task 4, Task 5 and exit ticket

Task 4, accept any reasoned point for each option, for example:

| Option             | Example answer                                                                                                               |
|--------------------|------------------------------------------------------------------------------------------------------------------------------|
| A: bank loan       | Advantage: fixed 8% rate; £330 a month fits within the £500. Disadvantage: £3,840 interest; must repay even in quiet months. |
| B: overdraft       | Advantage: quick and flexible; interest only on what is used. Disadvantage: 18% can rise, and the bank can demand repayment. |
| C: hire purchase   | Advantage: cost spread over 3 years at £375 a month. Disadvantage: £1,200 deposit; dealer owns the van until the end.        |
| D: Sam buys shares | Advantage: nothing to repay and no interest. Disadvantage: Sam gets 25% of profit paid out, about £4,000 a year.             |

Teacher note: other good points include the loan leaving Leah full ownership and control; hire purchase costing less in total than the loan (£2,700 against £3,840); and Sam owning only 25%, so Leah keeps 75% and still controls most decisions.

### Task 5: indicative guidance

A well supported answer recommends one option, uses figures, weighs its main advantage against its main disadvantage and compares it with another option. Example response (not a mark scheme): I recommend Option A, the bank loan. The van will earn money for about 6 years, so long-term finance suits it. Repayments of £330 a month fit inside the £500 a month the van should bring in, and the 8% rate is fixed. Its main disadvantage is £3,840 interest, more than hire purchase's £2,700, but Leah needs no £1,200 deposit and owns the van at once. Sam's offer would cost about £4,000 a year and Leah would share control.

Students may recommend C, hire purchase, if they argue that it costs less in total (£2,700 against £3,840) and that the £1,200 deposit can come from retained profit; that is acceptable if justified with figures. B and E are hard to justify on their own: the overdraft can be withdrawn at any time and its rate can rise, and retained profit covers only £5,000 of the £12,000. Look for correct figures, a clear link to Leah's business and a weighed judgement. Do not award a grade or percentage from these tasks.

### Answers: exit ticket

a. Internal: retained profit or selling unwanted assets. External: any one of a bank loan, a mortgage, an overdraft, a new share issue, family and friends, trade credit, hire purchase or a government grant. b.  $6 / 100 \times £8,000 = £480$ .

### Sources and limits

Curriculum source: AQA GCSE Business (8132) specification, Version 1.0, 19 August 2016, section 3.6.1 (printed page 25), with links to sections 3.2.3 (printed page 14) and 3.1.2 (printed page 11) and Appendix 6 (printed page 35). The specification verifies the topic scope only. The case, figures, timings and guidance are original TBS teaching design.